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DOUBLE CHORIO-RETINITIS, WITH PARTIAL DEGENERATION OF THE OPTIC NERVE, ASSOCIATED WITH CURIOUS LYMPH EXTRAVASATION INTO THE RETINA AND VITREOUS.

J. M., a twelve-year-old school-boy, presented himself at St. Mary's Hospital for examination of the eyes. By careful and close questioning no special dyscrasiæ could be obtained, the family history being exceptionably good. The patient was healthy and strong, until five years ago, when he had an attack of diphtheria and paralysis, confining him to bed for three months, during which time he was unable to speak, and his eyesight became bad; this last condition persisting.[1]

He was well developed, intelligent, and of good stature. All of the obtainable deep and superficial reflexes of the trunk and upper extremities were normal. The patellar-tendon reflexes were almost abolished. Physical examination failed to reveal any other organic change. His urine was free from albumen and sugar, and utterly devoid of any débris except a few epithelial scales; the specific gravity being 1020.

Both pupils were large (four and a half millimetres in horizontal diameters, upon exposure to diffuse daylight). The irides were mobile to light stimulus and accommodative action, but the left iris was sluggish. Centric vision for form with the right eye equalled one fiftieth of normal ($\frac{1}{50}$), whilst that of the left eye was one fifth, doubtful ($\frac{5}{2}$ —, the patient giving

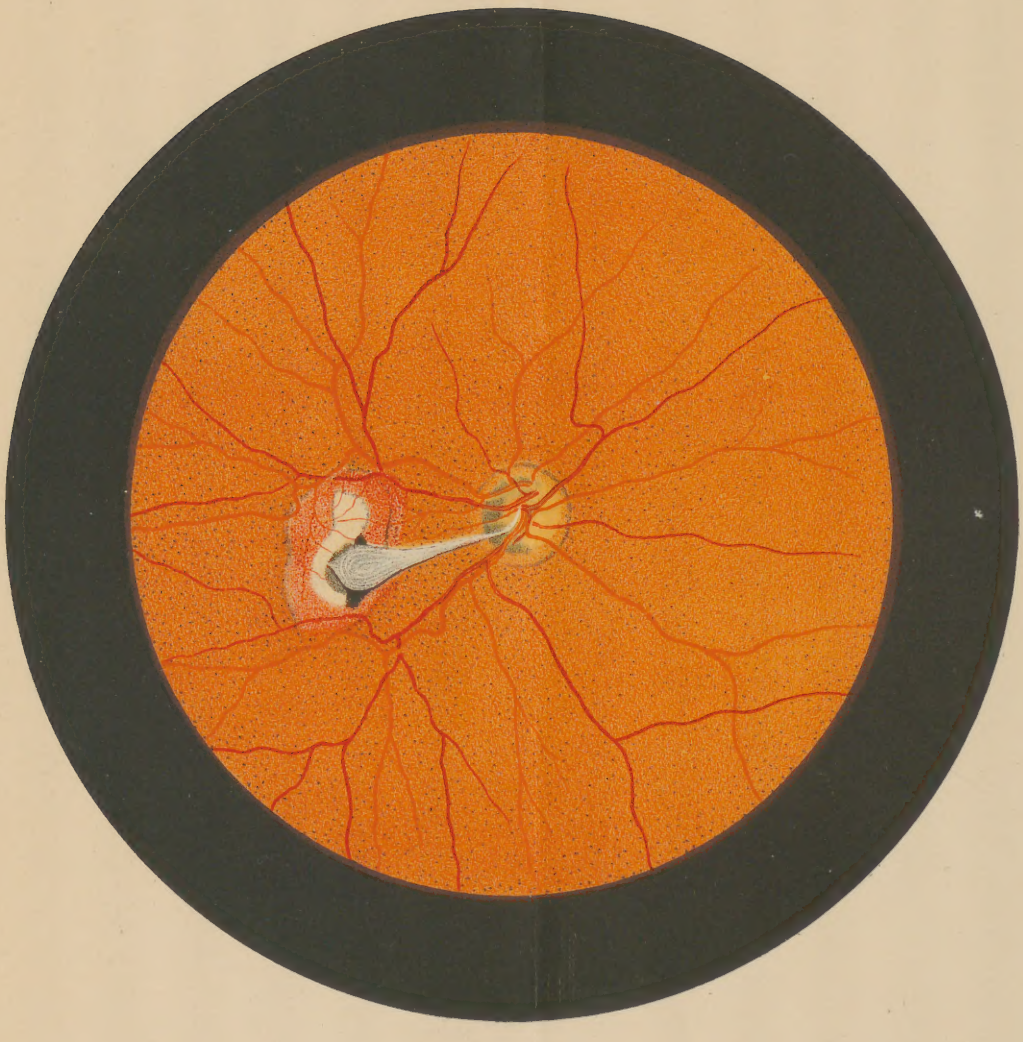
[1] Details of the sickness related to me by the attending physician, Dr. W. W. Lamb.

a slight twist of the head to obtain more accurate fixation); this not being sensibly improved by correction of error of refraction.

The ophthalmoscope showed in the right eye a peculiar brilliant lymph extravasation on the retina, extending out from the vessel-entrance on the disc to a large irregular area of choroidal inflammation; the mass having a gradual increase of elevation and thickness, as if by superimposed layers,—similar to those upon the back of an oyster shell,—from one-half dioptric at the vessel-entrance on the disc in advance of the surface of the disc, to two and a half dioptrics at the summit of the pyriform prolongation. The portions of the optic nerve in connection with this mass seemed to be entirely free from disturbance, until the point of greatest bulk of the extravasation was reached, where there was an underlying and surrounding area of unequal degeneration of choroid and retina, allowing the sclerotic to be seen. The retinal elements in the position of the fovea were seemingly destroyed. The nerve itself had undergone partial red-gray atrophy, whilst the retinal vessels,—especially the veins,—were diminished in size. The entire choroid appeared as if "black peppered"; this being more pronounced near the area of inflammation. The media were clear. Refraction showed a hypermetropia of one-half dioptric for the vessels at the long axis of the disc.

The left eye presented another stage of the same picture. The lymph extravasation had evidently broken loose, and was floating in the vitreous. It showed the same characteristic oyster-shell and silvery sheen-like appearance, but seemed smaller and filamentous (Fig 2, Plate 2). The macular region, which appeared somewhat lower than usual, was quite interesting; the fovea itself had, directly in its centre, a deposit of similar material, though somewhat browned, to that seen in the vitreous; this spot being partially bounded by a trace of sclerotic. Surrounding this, there was an area of retina, which was so thin as to be almost imperceptible, allowing the choroid to be plainly visible. This area was equal to the size of the macular region, and was utterly devoid of capillarity. The entire space was bordered by a well defined line of semi-

Plate 1. O.D.



DR. P.N.K. SCHWENK. DEL.

Plate 2. O.S.

Fig.2.

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transparent retina, which increased in density and thickness until it was lost in the general retinal haze. The nerve and retinal vessels were almost identical with those in the other eye. With the exception of the single vitreous opacity above noted, the media were clear. Refraction was the same as in the other eye.

The accompanying chromo-lithographs, which were made from water-color sketches by Dr. P. N. K. Schwenk, show these conditions very well.

The case is interesting, not only from an ætiological standpoint, where there may possibly have been a basilar meningitis with descending inflammation and partial atrophy of the optic nerves, with lymph extravasation into the interior of the ocular globes, or a localized intra-ocular lesion with cell proliferation into the vitreous; but is worthy of record in affording an ophthalmoscopic picture of a pathological change which may be considered as illustrative of a histological condition that is invisible in the ordinary methods of examination of the living eye,—that is, the appearance in the macular region of the left eye, resulting from the deposition of the foreign substance. Here the damage to the retina and choroid has not been so great as in the other eye; this most probably resulting from the lesser size of the mass having caused a lower grade of inflammatory action with consequent slighter plastic attachment. This want of strong attachment has permitted the mass to become dislodged and thrown out into the vitreous, carrying with it the greater part of the intervening band between the stump left protruding from the vessel-entrance on the disc and the remnant remaining in the fovea. The inflammation is, therefore, remarkable in appearance, it having produced just sufficient change in the macular region to allow the resulting condition seen to be used as a rough example of what is ophthalmoscopically invisible in the healthy eye, and which could only be recognized by much greater amplification. This picture cannot in any way be presumed to be representative of health, as we are here necessarily dealing with practically dead material, but can be considered merely as a pathological condition which so closely

simulates the appearance of healthy material under greater magnifying power (which has not as yet been applied to the living subject), that it may be used as an additional means of study of the appearance of normal tissue.